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In "That" Issue

Prepared by Andrew Blauvelt, Dermatology Branch, National Cancer Institute, Bethesda, Maryland, U.S.A.

The *Journal of Investigative Dermatology Symposium Proceedings* is the "sister" journal of the *Journal of Investigative Dermatology*. It is usually published two to three times per year, and contains collections of articles presented at international meetings of interest to investigative dermatologists and cutaneous biologists. Papers presented at one particular meeting, the Montagna Annual Symposium on the Biology of the Skin, are traditionally published each year in the *JID Symposium Proceedings*. Montagna Symposia have a long history of bringing together scientists from varying backgrounds in an informal and productive environment to discuss important issues in cutaneous biology. In 2000, the Montagna Symposium explored the topic of "Emerging Infections and the Skin". Research updates presented at this meeting were published in the December 2001 issue of the *JID Symposium Proceedings*, and it is my intent to draw attention to the material presented in that particular issue.

One common theme that is not immediately obvious among the manuscripts is that infectious diseases, both "old" and "new", have emerged in the setting of overall improvement in health care. Health improvement has largely occurred in developed nations, and has led to an increase in life span and to better quality of life in general. For example, improved chemotherapeutic agents for cancer, effective antiretroviral treatment for HIV disease and the increased use of bone marrow and solid organ transplantation for a variety of conditions have led to increased survival rates for patients. These gains, however, have also led to an increasingly older population, often with varying degrees of altered immune function. Choi and Lerner outline how altered immunity has led to the "emergence" of Leishmaniasis in HIV-infected individuals. In particular, they comment on the tremendous number of cases of coinfected patients in Spain, as well as highlighting the tendency toward visceral Leishmaniasis in the setting of HIV infection. LaGuardia and Gilden describe in detail the many noncutaneous neurologic manifestations of varicella-zoster virus infection, and emphasize the increased occurrence of these complicated disease presentations in elderly and immunocompromised patients. Blauvelt points out that Kaposi's sarcoma-associated herpesvirus (KSHV) infection is usually asymptomatic, but that immune compromise, as triggered by age, immunosuppressive medications or HIV infection, can lead to the occurrence of Kaposi's sarcoma (KS). Jenson *et al* and Bouwes Bavinck *et al* discuss the biology of human papillomavirus (HPV) infection, and discuss possible mechanisms involved in the development of HPV-associated neoplasia, especially as it relates to skin cancer development in post-transplant patients who are taking immunosuppressive medications to prevent graft rejection. Ghannoum documents the important clinical problem of the emergence of unusual, aggressive and drug-resistant *Candida* species in the setting of widespread use of chemotherapy and antifungal therapy in cancer patients.

Another theme that is carried through many of the articles is that technologic advances have facilitated studies of infectious disease pathogenesis. In this regard, Fredericks discusses how profiling 16s rRNA sequences has led to the identification of numerous new bacterial species and to the cataloguing of bacterial populations in complex ecosystems (e.g., soil). He stresses that such technology will be extremely useful in delineating bacterial populations within skin and to linking abnormal 16s RNA profiles with cutaneous disease states, such as acne and rosacea. Novel experimental systems and approaches, as described in the papers by Chiller *et al* and Travers *et al*, have led to better understanding of diseases caused by *S. aureus*. Blauvelt outlines how new methodologies in molecular virology led to the discovery of KSHV in KS tissue, and to identification of the link between human herpesvirus 6 and 7 infection and roseola (and possibly to pityriasis rosea). A fascinating review by King *et al* explores how advances in molecular biology have given strength to the hypothesis that *Chlamydia pneumoniae* is involved in pathogenesis of diseases traditionally believed to be of noninfectious etiology (e.g., atherosclerosis and diabetic foot ulcers). Connick describes how technologic advances in immunology have led to extremely detailed analyzes of immune function in HIV-infected individuals, both prior and following antiretroviral therapy. Clever use of skin explants in tissue culture experiments, as shown by Marovich *et al*, led to the discovery that dengue virus infects Langerhans cells. This work has provided a new appreciation of dengue virus pathogenesis and will likely lead to new immunization strategies for dengue fever. Finally, Boehncke provides an excellent example of how methodologic advances in mouse modeling of psoriasis have contributed to understanding how bacterial superantigens exacerbate psoriasis.

It is clear that the many advances in understanding infectious disease pathogenesis will translate into better vaccine and therapeutic approaches in the future. The reviews by Carrasco *et al* and Dinarello provide a glimpse of this hope. The former paper describes considerable advances that have been made to develop both prophylactic and therapeutic vaccines for HPV disease. Importantly, success in this area should help many women at risk for development of cervical cancer. Dinarello outlines current understanding on the immunology and cytokine biology of septic shock (especially as it relates to TNF-α and IL-1), and provides a rational basis for therapeutic interventions in sepsis designed to interfere with these key cytokines. Finally, I would like to emphasize that Connick, in her specific discussion of immune defects in HIV disease and the improvement of many of these parameters with anti-retroviral therapy, provides an excellent paradigm for understanding the complex interplay between immune status and infectious disease pathogenesis. Accumulating evidence suggests that future therapeutic approaches for infectious disease will not only require specific targeting of pathogens, but will also likely involve immunotherapeutic approaches that enhance natural defenses against these organisms. "That" issue of *JID Symposium Proceedings* provides an up-to-date road map for infectious diseases in dermatology and should be carefully perused.

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